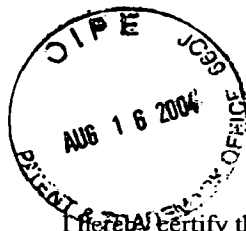


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John T. Pienkos, Reg. No. 42,997

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): David Charles Schwartz, *et al.*
Serial No.: 10/688,416
Filed: October 17, 2003
For: Micro-Channel Long Molecule Manipulation System
Docket No.: 960296.00129

INFORMATION DISCLOSURE STATEMENT

This paper is being presented for filing in the above case pursuant to Rules 97 and 98 of the Rules of Practice.

Four sets of Forms PTO/SB/08A "Information Disclosure Statement by Applicant" are attached. The first set of Forms PTO/SB/08A lists newly-cited references, and copies of the references are enclosed.

As for the remaining three sets of Forms PTO/SB/08A, these respectively list references that were cited during the prosecution of three patent applications of which the present Application claims the benefit, namely, U.S. patent application Nos. 09/962,802 (now U.S. Patent No. 6,610,256); 08/855,410 (now U.S. Patent No. 6,294,136); and 08/415,710 (now U.S. Patent No. 5,720,928). The Applicants respectfully submit that, pursuant to 37 CFR 1.98(d), no copies of the references listed on these Forms PTO/SB/08A need be submitted to the Patent Office.

No additional fees for filing this paper are believed to be due. However, the Commissioner is hereby authorized to charge any additional fees due or to credit any overpayment to deposit account no. 17-0055.

Respectfully submitted,

DAVID CHARLES SCHWARTZ, *et al.*

By:

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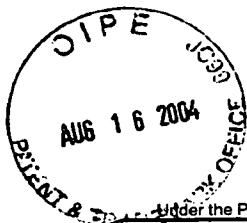
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

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Application Number	10/688,416
Filing Date	October 17, 2003
First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
/SKM/ ↓		US- 6,123,819	09-26-2000	Peeters	
		US- 2002/0037499 A1	03-28-2002	Quake et al.	
		US- 2002/0137218 A1	09-26-2002	Mian et al.	
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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
/SKM/ ↓		WO 94/18218	08-18-1994	Seq, Ltd.		
		WO 00/09757	02-24-2000	U.S. Genomics		
		PCT Int'l Search Report				

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/SKM/		Chih-Ming Ho, "Fluidics - The Link Between Micro and Nano Sciences and Technologies", Proceedings of the IEEE 14th Annual International Conference On Microelectro Mechanical Systems. MEMS 2001. Interlaken, Switzerland, Jan 21-25,	
/SKM/		2001, IEEE International Micro Electro Mechanical Systems Conference, New York, NY: IEEE, US, vol. CONF. 14, (01-21-2001), pgs 375-384, XP010534628 ISBN: 0-7803-5998-4, pg 378-379.	
/SKM/		Unger M A Et Al: "Monolithic Microfabricated Valves and Pumps by Multilayer Soft Lithography", Science, American Association For The Advancement Of Science, US, vol. 288, 04/07/2000, pgs. 113-116, XP002192277 ISSN: 0036-8075 Figure 1.	
/SKM/		Stix, Gary; "Thinking Big-A Harvard Medical School dropout aims to usher in the personal-genomics ear," Innovations, Scientific American, June 2002, pgs. 30-31.	
/SKM/		Stikeman, Alexandra, "Nanobiotech Makes The Diagnosis," Technology Review, May 2002, pgs. 61-66.	

Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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Prior art cited from U.S. Patent No. 6,610,256

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Attorney Docket Number	960296.00129

U. S. PATENT DOCUMENTS

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/SKM/ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓		US- 4,473,452	Sep., 1984	Cantor et al.	
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		US- 4,737,251	Apr., 1988	Carle et al.	
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		US- 5,985,549	Nov., 1999	Singer et al.	435/6
		US- 6,147,198	Nov., 2000	Schwartz	
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		US- 6,294,136	Sep., 2001	Schwartz	422/186
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FOREIGN PATENT DOCUMENTS

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
/SKM/ ↓ ↓ ↓		FR 2605472	Apr., 1988	Alain Bouillet		
		WO 84/02001	May, 1984	Trustees of Columbia Univers		
		WO 87/01955	Sep., 1987	Washington University		

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		First Named Inventor	David Charles Schwartz
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		Application Number	10/668,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
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/SKM/		Link and Olson, 1991, "Physical Map of the <i>Saccaromyces cerevisiae</i> Genome at 110-Kilobase Resolution", Genetics 127: 681-698.	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/688,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
		Examiner Name	
Sheet 6	of 7	Attorney Docket Number	960296.00129

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials [*]	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/SKM/		Poddar and Maniloff, 1986, "Chromosome Analysis by Two-Dimensional Fingerprinting", Gene 49:93-102.	
		Porath and Axen, 1976, "Immobilization of Enzymes to Agar, Agarose, and Sephadex Supports", Meth. Enzymol. 44:19-45	
		Rampino and Chrambach, 1991, "Conformational Correlatives of DNA Band Compression and Bidirectional Migration During Field Inversion Gel Electrophoresis, Detected by Quantitative Video Epifluorescence Microscopy", Biopolymers 31:1297-1307.	
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		Schwartz et al., 1989, "Conformational Dynamics of Individual DNA Molecules During Gel Electrophoresis", Nature 338-520-522.	
		Schwartz et al., 1989, "ED: Pulsed Electrophoresis Instrument", Nature 342-575-576.	
		Schwartz and Cantor, 1984, "Separations of Yeast Chromosome-Sized DNAs by Pulsed Field Gradient Gel Electrophoresis", Cell 37:67-75.	
		Smith et al., 1992, "Direct Mechanical Measurements of the Elasticity of Single DNA Molecules by Using Magnetic Beads", Science 258:1122-1126.	
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		Smith and Birnstiel, 1976, "A Simple Method for DNA Restriction Site Mapping", Nucl. Acids Res. 3:2387-2399.	

Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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Group Art Unit					
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Attorney Docket Number		960296.00129			
Sheet	7	of	7		

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/SKM/		Southern, 1975, "Detection of Specific Sequences among DNA Fragments Separated by Gel Electrophoresis", J. Mol. Biol. 98:503-517.	
		Stallings et al., 1990, "Physical Mapping of Human Chromosomes by Repetitive Sequence Fingerprinting", Proc. Natl. Acad. Sci. USA 87:6218-6222.	
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		Williams, 1977, "Use of Polyisine for Adsorption of Nucleic Acids and Enzymes to Electron Microscope Specimen Films", Proc. Natl. Acad. Sci. USA 74:2311-2315.	
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		Yanagida et al., 1983, "Dynamic Behaviors of DNA Molecules in Solution..." Cold Spring Harbor Symp. Quant. Biol. 47:177-187.	
		Zenhausen et al., 1992, "Imaging of DNA by Scanning Force Microscopy", J. Struct. Biol. 108:69-73.	
		Zubay, 1988, Biochemistry (Macmillan Publishing Company, New York) pp. 918-919.	

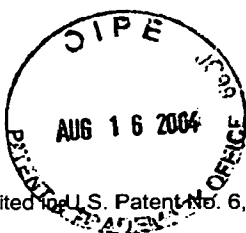
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Prior Art Cited for U.S. Patent No. 6,294,136

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Sheet 1 of 8

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Application Number	10/688,416
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First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 4,473,452	Sep., 1984	Cantor et al.	204/180
		US- 4,695,548	Sep., 1987	Cantor et al.	435/179
		US- 4,737,251	Apr., 1988	Carle et al.	204/182
		US- 4,767,700	Aug., 1988	Wallace	435/6
		US- 4,870,004	Sep., 1989	Conroy et al.	435/6
		US- 5,059,294	Oct., 1991	Lizardi	204/458
		US- 5,079,169	Jan., 1992	Chu et al.	436/174
		US- 5,314,829	May, 1994	Coles	436/165
		US- 5,380,833	Jan., 1995	Urdea	536/22
		US- 5,720,928	Feb., 1998	Schwartz	422/186
		US- 5,985,549	Nov., 1999	Singer et al.	435/6
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FOREIGN PATENT DOCUMENTS

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		FR 2605472	Apr., 1988	Alain Bouillet		
		WO 84/02001	May, 1984	Trustees of Columbia University		
		WO 87/01955	Sep., 1987	Washington University		

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First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

Sheet 2 of 8

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		Allison et al., 1992, "Immobilization of DNA for Scanning Probe Microscopy", Proc. Natl. Acad. Sci. USA 89: 10129-10133.	
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		Chattoraj et al., 1978, "DNA Coordination with Polyamines", J. Mol. Biol. 121: 327-337.	

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		Guo et al., 1993, "Sizing of Large DNA Molecules by Hook Formation in a Loose Matrix", J. Biomol. Struct. and Dynam. 11: 1-10.	

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Sheet 5 of 8

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		Link and Olson, 1991, "Physical Map of the Saccharomyces cerevisiae Genome at 110-Kilobase Resolution", Genetics 127: 681-698.	
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		Romling et al., 1989, "A Physical Genome Map of Pseudomonas aeruginosa", EMBO J. 8: 4081-4089.	
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		Smith and Birnstiel, 1976, "A Simple Method for DNA Restriction Site Mapping", Nucl. Acids Res. 3: 2387-2399.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 7 of 8

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Application Number	10/668,416
Filing Date	October 17, 2003
First Named Inventor	David Charles Schwartz
Group Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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		Yanagida et al., 1983, "Dynamic Behaviors of DNA Molecules in Solution..." Cold Spring Harbor Symp. Quant. Biol. 47: 177-187.	
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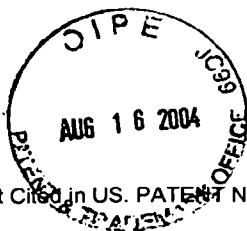
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Prior Art Cited in US. PATENT NO. 5,720,928

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Application Number	10/688,416
Filing Date	October 17, 2003
First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
/SKM/ ↓		US- 4,473,452	Sep., 1984	Cantor et al.	
		US- 4,695,548	Sep., 1987	Cantor et al.	
		US- 4,737,251	Apr., 1988	Carle et al.	
		US- 4,767,700	Aug., 1988	Wallace	
		US- 4,870,004	Sep., 1989	Conroy et al.	
		US- 5,059,294	Oct., 1991	Lizardi	
		US- 5,079,169	Jan., 1992	Chu et al.	
		US- 5,314,829	May, 1994	Coles	436/165
		US- 5,380,833	Jan., 1995	Urdea	
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/SKM/		FR 2605472	Apr., 1988	Alain Bouillet		
↓		WO 84/02001	May, 1984	Trustees of Columbia University		
		WO 87/01955	Sep., 1987	Washington University		

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		Application Number	10/688,416		
		Filing Date	October 17, 2003		
		First Named Inventor	David Charles Schwartz		
		Art Unit			
		Examiner Name			
Sheet	2	of	9	Attorney Docket Number	960296.00129

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/SKM/		Chattoraj et al., "DNA Condensation with Polyamines", J. Mol. Biol. 121, (1978), pp.327-337.	
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		Filing Date	October 17, 2003		
		First Named Inventor	David Charles Schwartz		
		Group Art Unit			
		Examiner Name			
		Attorney Docket Number	960296.00129		
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/SKM/		Zenhausen et al., 1992, "Imaging of DNA by Scanning Force Microscopy", J. Struct. Biol. 108: 69-73.	
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		Filing Date	October 17, 2003		
		First Named Inventor	David Charles Schwartz		
		Group Art Unit			
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<div style="font-size: 2em;">↓</div>		Campbell et al., 1991, "Generation of a nested series of interstitial deletions in yeast artificial chromosomes carrying human DNA", Proc. Natl. Acad. Sci. USA 88:5744.	
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<div style="font-size: 2em;">↓</div>		Church and Gilbert, 1984, "Genomic sequencing", Proc. Natl. Acad. Sci. USA 81: 1991.	

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First Named Inventor		David Charles Schwartz			
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/SKM/		Luckham and Klein, 1984, "Forces between Mica Surfaces Bearing adsorbed Polyelectrolyte, Poly-L-lysine, in Aqueous Media", Chem. Soc. Faraday Trans. I, 80: 865-878.	
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				Filing Date	October 17, 2003
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Sheet	6	of	9	Attorney Docket Number	960296.00129

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/SKM/		Romling et al., 1989, "A physical genome map of Pseudomonas aeruginosa", EMBO J. 8(13): 4081-4089.	
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		Kucherlapati et al., 1988, Genetic Recombination pp. 92-106.	
		Zubay, 1988, Biochemistry (Macmillan Publishing Company, New York) pp. 918-919.	
		Woolf et al., 1988, "Mapping genomic organization by field inversion and two dimensional gel electrophoresis", Nucleic Acids Research 16(9): 3863.	
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		Application Number	10/688,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
		Examiner Name	
		Attorney Docket Number	960296.00129
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/SKM/		Yanagida et al., "Dynamic Behaviors of DNA Molecules in Solution...", Cold Sprg. Hrbr. Symp. Quant. Biol. 47, pp. 177-187, 1983.	
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